

B1 which is assigned to Seagate Technology Inc., the assignee of the present invention, and is hereby incorporated by reference.

IN THE CLAIMS

Please amend claims 1, 5, 6, 8, 11, and 13 (marked up version attached in Appendix), such that pending claims 1-17 are as follows:

CLAIM(S):

1. (Amended) A microactuator for selectively altering a position of a transducing head carried by a slider in a disc drive system with respect to a track of a rotatable disc having a plurality of concentric tracks, the disc drive system having an actuator arm attached to a load beam for supporting the slider over the rotatable disc, the load beam having a stationary region and a moving region, the microactuator comprising:

means for flexibly coupling the stationary region of the load beam to the moving region of the load beam; and

means for selectively altering a position of the slider with respect to the rotatable disc, the means extending from a distal end of the stationary region to a proximal end of the moving region generally along a longitudinal centerline of the stationary region.

2. A microactuator for selectively altering a position of a transducing head carried by a slider in a disc drive system with respect to a track of a rotatable disc having a plurality of concentric tracks, the disc drive system having an actuator arm, the microactuator comprising:

a load beam attached to a distal end of the actuator arm, the load beam having a first section;


a flexure for supporting the slider carrying the transducing head; and

a bending motor attached between the first section of the load beam and the flexure, the bending motor being deformable in response to a control signal applied thereto.

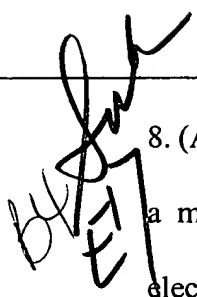
3. The microactuator of claim 2 further comprising a flexible beam connected between the first section of the load beam and the flexure, and wherein the bending motor is attached to the flexible beam.

4. The microactuator of claim 3 wherein the bending motor is attached to a top surface of the flexible beam such that the flexible beam supports the bending motor and transforms a force on the flexure into a compressive load on the bending motor.

5. (Amended) The microactuator of claim 4 wherein the bending motor is constructed from a member of the group consisting of a piezoelectric material, an electroactive ceramic, an electroactive polymer, and an electrostrictive ceramic material.

 6. (Amended) The microactuator of claim 2 wherein the load beam has a second section connected to the flexure, and further wherein a flexible beam is connected between the first section and the second section of the load beam and the bending motor is attached to the flexible beam.

7. The microactuator of claim 2 wherein the bending motor comprises:
a bottom electrode;
an electroactive material on top of the bottom electrode, the electroactive material constructed such that it has two portions poled in opposite directions; and
a top electrode on top of the electroactive material;
wherein the electroactive material bends in plane in response to control signals supplied to the bottom electrode and the top electrode.

 8. (Amended) The microactuator of claim 7 wherein the electroactive material is constructed from a member of the group consisting of a piezoelectric material, an electroactive ceramic, an electroactive polymer, and an electrostrictive ceramic material.

9. The microactuator of claim 2 wherein the bending motor comprises:
a bottom electrode;
an electroactive material on top of the bottom electrode, the electroactive material uniformly poled;

a first top electrode disposed on top of a first longitudinal half of the electroactive material; and

a second top electrode disposed on top of a second longitudinal half of the electroactive material;

wherein the electroactive material bends in plane in response to control signals supplied to the bottom electrode and the first and second top electrodes.

10. The microactuator of claim 2 wherein the bending motor comprises:

a bottom electrode;

a first electroactive element on the bottom electrode;

a shared electrode on the first electroactive element;

a second electroactive element on the shared electrode; and

a top electrode on the second electroactive element.

11. (Amended) The microactuator of claim 10 wherein the top electrode comprises:

a first top electrode element disposed on top of a first longitudinal half of the electroactive element; and

a second top electrode element disposed on top of a second longitudinal half of the electroactive element.

12. The microactuator of claim 2 wherein the bending motor has a length to width ratio of at least about ten.

13. (Amended) A disc drive suspension comprising:

an actuator arm having a proximal end and a distal end;

a load beam attached to the distal end of the actuator arm, the load beam having a mounting region at a proximal end, a head suspension near a distal end of the load beam, and a flexible region between the mounting region and the head suspension;

a flexure configured to support a transducing head;

a beam connected between the head suspension and the flexure [of the load beam];

and

a bending motor attached to a top surface of the beam such that the beam supports the bending motor and transforms a force on the flexure into a compressive load on the bending motor, the bending motor being deformable in response to a control signal applied thereto.

14. The microactuator of claim 13 wherein the beam is constructed from steel and has dimensions such that the in-plane resonance frequency of the beam and the distal portion of the head suspension is less than about three kilohertz.

15. The microactuator of claim 13 wherein the flexible region of the load beam includes a first flexible beam and a second flexible beam having transverse creases such that the load beam has a first mode out-of-plane resonance frequency of greater than about two kilohertz and a second mode out-of-plane resonance frequency of greater than about six kilohertz.

16. The microactuator of claim 13 wherein the bending motor comprises:
a plurality of piezoelectric elements, the piezoelectric elements deformable in response to an applied electric field;
a plurality of first and second top electrodes disposed on a top surface of the plurality of piezoelectric elements;
wherein each set of piezoelectric elements and first and second top electrodes are vertically stacked upon one another.

17. The microactuator of claim 16 further comprising:
a first endcap electrically coupled to each of the plurality of first top electrodes;
a second endcap electrically coupled to each of the plurality of second top electrodes.

REMARKS

This is in response to the Office Action mailed on October 2, 2001, in which claims 1-17 were rejected. Specifically, claims 5-6 were rejected under 35 U.S.C. § 112, second paragraph, claims 1-11, 13 and 16-17 were rejected under 35 U.S.C. § 102(e) as being anticipated by Krinke et